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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,009	03/31/2004	James Christopher Deepak	1880.004US1	9222
21186 7590 08/20/2007 SCHWEGMAN, LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402				
EXAMINER				
PHAM, LONG				
ART UNIT		PAPER NUMBER		
2814				
MAIL DATE		DELIVERY MODE		
08/20/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/815,009

**Applicant(s)**

DEEPAK ET AL.

**Examiner**

Long Pham

**Art Unit**

2814

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 and 30-46 is/are pending in the application.
- 4a) Of the above claim(s) 6-11, 30-39 and 44-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12-13, 14-17, and 40-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by McAndrew (US pat 6066402).

With respect to claims 1 and 2, McAndrew teaches a lead or wire or solder including 83 to 87 percent by weight of lead and a balance of tin. See the abstract.

Further with respect to claim 1, how the lead is formed has not been given patentable weight since claimed invention is directed to a device or structure.

With respect to claim 4, McAndrew further teaches the lead is coupled to a lead or wire of a surface mount component. See the abstract.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over McAndrew (US pat 6066402) in combination with the applicant's admitted prior art (AAPA) of this application.

With respect to claim 3, McAndrew teaches the lead or wire or solder including 83 to 87 percent by weight of lead but does not teach the claimed range of 82 to 84 percent by weight of lead.

However, in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2144.05.

Further with respect to claim 3, McAndrew further teaches the lead or wire or solder including 8.5 to 11.5 percent by weight of antimony but does not teach the claimed range of 9 to 11 percent by weight of antimony.

However, in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2144.05.

With respect to claim 5, McAndrew fails to teach coupling the lead or wire or solder to a electronic or downhole electronic components or circuitry or assembly (including amplifier or processor or pressure sensor) or transducer or assembly.

AAPA teaches using lead or wire or solder to couple electronic components or circuitry assembly (including downhole transducer or assembly) (including amplifier or processor or pressure sensor) to provide electrical connections between electronic components or circuitry assembly (including downhole transducer or assembly). See page 1 of this application.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of AAPA into the device McAndrew to attain the above benefit.

### ***Claim Rejections - 35 USC § 103***

Claims 12, 13, 14, 15, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over McAndrew (US pat 6066402) in combination with the applicant's admitted prior art (AAPA) of this application.

With respect to claim 12, McAndrew teaches a lead or wire or solder including 83 to 87 percent by weight of lead and a balance of tin. See the abstract.

Further with respect to claim 1, how the lead is formed has not been given patentable weight since claimed invention is directed to a device or structure.

With respect to claim 13, McAndrew teaches the lead or wire or solder including 83 to 87 percent by weight of lead but does not teach the claimed range of 82 to 84 percent by weight of lead.

However, in the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2144.05.

Further with respect to claim 13, McAndrew further teaches the lead or wire or solder including 8.5 to 11.5 percent by weight of antimony but does not teach the claimed range of 9 to 11 percent by weight of antimony.

However, in the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2144.05.

With respect to claims 12, 14, 16, and 17, McAndrew fails to teach coupling the lead to a electronic or downhole electronic components or circuitry or assembly (including amplifier or processor or pressure sensor) or transducer or assembly.

AAPA teaches using lead to couple electronic components or circuitry assembly (including downhole transducer or assembly) (including amplifier or processor or pressure sensor) to provide electrical connections between electronic components or circuitry assembly (including downhole transducer or assembly). See page 1 of this application.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of AAPA into the device McAndrew to attain the above benefit.

With respect to claim 15, it is submitted that a downhole transducer would be inherently capable of measuring a downhole temperature or pressure.

Claims 40, 41, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (publication no. 59085395) in combination with McAndrew (US patent 6,066,402) and the applicant's admitted prior art (AAPA) of this application.

With respect to claim 40, Shimizu et al. teach a composition including 97.5 percent weight of lead, 1.5 percent weight of silver, and a balance of tin. See the English abstract.

Shimizu et al. teach the lead solder layer or coating including 97.5 percent weight of lead but fail to teach the weight percent of lead is 78 to 82.9 percent.

McAndrew teaches a lead solder layer or coating or finish layer having 83 to 87 percent weight of lead to achieve good mechanical strength. See the abstract.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of McAndrew into the device of Shimizu et al. to obtain the above benefit.

Further with respect to claim 40, McAndrew teaches the including 83 to 87 percent of lead but fail to teach the weight percent of lead is 78 to 82.9 percent.

However, it is submitted that since the difference between claimed range and range of McAndrew are very small, the difference would not produce any significant changes.

Further with respect to claim 40, Shimizu et al. appear to fail to teach that lead solder layer or coating or plating further includes 9-11 percent weight of antimony.

McAndrew teaches a lead solder layer or coating or finish layer having 8.5 to 11.5 percent weight of antimony to achieve good mechanical strength. See the abstract.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of McAndrew into the device of Shimizu et al. to obtain the above benefit.

With respect to claims 40 and 41, Shimizu et al. fail to teach coupling the composition to a electronic or downhole electronic components or circuitry or assembly (including amplifier or processor or pressure sensor) or transducer or assembly.

AAPA teaches using lead including the composition to couple electronic components or circuitry assembly (including downhole transducer or assembly) (including amplifier or processor or pressure sensor) to provide electrical connections between electronic components or circuitry assembly (including downhole transducer or assembly). See page 1 of this application.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of AAPA into the device Shimizu et al. to attain the above benefit.

Further with respect to claims 42 and 43, AAPA further teaches coupling a electronic component (including a downhole transducer or processor or data acquisition system or filter) to a circuit trace in a circuit coupled to a lead.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-5, 12-13, 14-17, and 40-43 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 571-272-1714. The examiner can normally be reached on Mon-Frid, 10am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2814

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Long Pham/

Primary Examiner, Art Unit 2814

/L. P./